

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Attorney Docket No. 14177US02)

In the Application of:

Ed H. Frank

Serial No. 10/658,310

Filed: September 9, 2003

For: METHOD AND SYSTEM FOR  
PROVIDING MULTIPLE  
ENCRYPTION IN A MULTI-  
BAND MULTI-PROTOCOL  
HYBRID WIRED/WIRELESS  
NETWORK

Examiner: Carlton Johnson

Group Art Unit: 2436

Confirmation No. 2145

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**REPLY BRIEF**

Mail Stop Appeal Brief — Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with 37 CFR 41.41, the Appellant submits this Reply Brief in response to the Examiner's Answer mailed on March 15, 2011 ("Examiner's Answer"), with a reply period through May 15, 2011. Claims 1-42 are pending in the present Application. The Appellant has responded to the Examiner in the Examiner's Answer, as found in the following Arguments section.

As may be verified in the Final Office Action (pages 2-14), dated July 28, 2010 ("Final Office Action"), Claims 1, 6-9, 15, 20-23, 29 and 34-37 are rejected under 35 U.S.C. § 102(e) as being anticipated by USP 7,039,027 ("Bridgelall"). Claims 2-5, 10-11, 16-19, 24-25, 30-33 and 38-39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bridgelall in view of USP 6,088,451 ("He"). Claims 12-14, 26-28 and 40-42 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bridgelall in view of USP 7,325,058 ("Sheth"). To aid the Board in identifying corresponding arguments, the Appellant has used the same headings in the Argument section of this Reply Brief.

### **STATUS OF THE CLAIMS**

Claims 1-42 were finally rejected. Pending claims 1-42 are the subject of this appeal.

## **ARGUMENTS**

### **I. Summary of Appellant's Arguments**

The Appellant has carefully reviewed the Examiner's arguments in the Examiner's Answers, and respectfully points out that the Examiner seems to have misconstrued the disclosure of Bridgelall, and consequently, Appellant's claims have been improperly rejected. Specifically, the Examiner's arguments have the following deficiencies:

(1) The Appellant (see Brief of Appeal, pages 10-13) has already pointed out that the three PHY channels (i.e., first PHY channel, the second PHY channel and the third PHY channel) recited in Appellant's claim 1, all correspond to those of an access point (AP), not of an originating access device.

The Examiner, instead, has misconstrued Bridgelall's RACH (336), SDCCH/4 (338) and FACCH/TF (342) channels (the alleged "first PHY channel, second PHY channel and third PHY channel") as channels of an AP. The Examiner's above allegation is unsupported and contrary to the disclosure of Bridgelall.

For example, the Examiner relies for support on Bridgelall's Fig. 3, and equates Bridgelall's RACH (336), SDCCH/4 (338) and FACCH/TF (342) channels to Appellant's first PHY channel, second PHY channel and third PHY channel of an AP, respectively. Bridgelall, on the contrary, discloses that the RACH (336), SDCCH/4 (338) and

FACCH/TF (342) are all respective GSM cellular channels of a mobile station (MS) (i.e., the alleged "originating access device"), which are not channels of an AP.

Specifically, the Examiner is referred to the following citations of Bridgelall:

Bridgelall (see col. 7, ll. 3-5) discloses that "a Random Access Channel (RACH) (336) (the alleged "first PHY channel") is used by the mobile station (i.e., the alleged "originating access device") to request a dedicated channel from a network".

Bridgelall (see col. 8, ll. 33-35) also discloses that "the mobile (i.e., the alleged "originating access device") initiates connection management services from the network in step 507 via the standalone dedicated channel 338 (the alleged "second PHY channel")".

Bridgelall (see col. 8, ll. 4-9) further discloses that "the network assigns a traffic channel for the transmission of user data in step 420. The assignment command from the network is answered by an assignment complete message from the mobile (i.e., the alleged "originating access device") in step 422, which is already on the new channel FACCH/TF (342) (the alleged "third PHY channel")".

Bridgelall, in the above citations, clearly discloses that the RACH (336), SDCCH/4 (338) and FACCH/TF (342) (i.e., the alleged "first, second and third respective PHY channels") are all channels of a mobile station (MS) (i.e., the alleged "originating access device"), not channels of an AP.

Accordingly, the Appellant maintains that the Examiner has misconstrued Bridgelall, by equating Appellant's respective "first, second and third PHY channels" of an AP, to Bridgelall's PHY channels of a mobile station (the alleged "originating access device").

(2) Bridgelall (see Figs. 3-5, col. 7, ll. 3-5, col. 8, ll. 33-35 and col. 8, ll. 4-9) clearly discloses that the RACH (336), SDCCH/4 (338) and FACCH/TF (342) channels (i.e., the alleged "first, second and third respective PHY channels") are GSM cellular channels, which utilize GSM cellular protocol for communication within the WWAN network (200).

The Examiner is referred to Bridgelall (see col 6, lines 7-11), which states the following:

"A portable dual mode Radio 242 enables a user to conduct communications via the network 200 with the WLAN 201 via the access point 202 or the WWAN 200 via any of the antennas 226, 228, 230 according to strength of signal measurements..."

As seen in the above citation, Bridgelall merely states that the dual mode Radio 242 (the alleged "originating access device") enables a user to communicate either with the WLAN network (201) via the access point (AP) (202), or with the WWAN (200) (i.e., GSM cellular network) via any of the antennas (226, 228, 230). Bridgelall (see col. 8, ll. 58-59), further discloses that the AP in the WLAN network (201) uses the IEEE 802.11 protocol (which is incompatible with the GSM cellular protocol).

Bridgelall (see col 6, lines 7-11 or col. 8, ll. 58-59) simply does not disclose that any of the GSM cellular channels, namely, the RACH (336) (the alleged "first PHY channel"), the SDCCH/4 (338) (the alleged "second PHY channel"), or the FACCH/TF (342) (the alleged "third PHY channel") is used in the WLAN network (201) communication, as alleged by the Examiner.

In other words, for the Examiner (i.e., see Examiner's Answer in pages 18-19) to allege that Bridgelall discloses using the RACH (336), SDCCH/4 (338) and FACCH/TF (342) respective GSM cellular channels to communicate with the AP (202) in the WLAN network (201), in effect, is to allege that the WWAN GSM cellular network (200) and the WLAN network (201) are not distinguishable networks, or that the GSM cellular protocol and the IEEE 802.11 protocol are interchangeable. Such an allegation is not only contrary to the disclosure of Bridgellal, but is also inaccurate.

Therefore, the Appellant maintains that the Examiner has misconstrued Bridgelall, by alleging that Bridgellal's mobile station (the alleged "originating access device") communicates with the AP (202) in the WLAN network (201) using the respective RACH (336), SDCCH/4 (338) and FACCH/TF (342) GSM cellular channels.

3) Bridgelall, in the entire disclosure, is silent on the AP (202) utilizing various separate channels to perform service requesting, authentication and establishing of communication. Instead, Bridgelall (see Fig. 6) discloses that the WLAN network (201) operates based on the AP sending a Beacon signal, followed by the mobile device

responding to the beacon signal by sending a sequence of Probe request/response signaling under the IEEE 802.11 protocol. Bridgelall simply does not disclose that the WLAN signaling scheme on the AP (202) utilizes multiple PHY channels to perform the recited steps in Appellant's claim 1, let alone discloses or suggests that the AP (202) utilizes the RACH (336), SDCCH/4 (338) and FACCH/TF (342) channels (i.e., the alleged "first, second or third channels") in the WLAN signaling.

Therefore, the Appellant maintains that the Examiner's allegation that Bridgelall (see col. 6, ll. 7-9) discloses that the WLAN network (201) utilizes multiple PHY channels (i.e., the RACH (336), SDCCH/4 (338) and FACCH/TF (342)) for the WLAN communication is unsupported.

Based on the above arguments (1) to (3), the Appellant maintains that the Examiner has misconstrued the disclosure of Bridgelall, and Appellant's claims, therefore, have been improperly rejected.

With the above arguments in mind, the Appellant now turns to the specific arguments stated by the Examiner in the Examiner's Answers.

## **II. Rejection to Claims 1, 6-9, 15, 20-23, 29 and 34-37 under 35 U.S.C. § 102(e)**

### **A. Independent Claims 1, 15, and 29**

The Appellant stands by the arguments made in the corresponding section of the Brief on Appeal. Namely, Bridgelall does not disclose or suggest **“receiving on a first PHY channel of an access point, a request for initiation of a communication session from an originating access device,”** or **“authenticating said communication session by authenticating said originating access device using a second PHY channel,”** or **“hosting said communication session over a third PHY channel, said third PHY channel established between said access point and said originating access device,”** as recited by the Appellant in independent claim 1.

In regards to independent claim 1, the Examiner's Answer (pages 17-19) states the following arguments (emphasis added):

**Examiner's Response to Claim 1:**

**“3.1 Applicant argues,** “receiving on a first PHY channel of an access point, a request for initiation of a communication session from an originating access device,” or “authenticating said communication session by authenticating said originating access device using a second PHY channel,” or “hosting said communication session over a third PHY channel, said third PHY channel established between said access point and said originating access device,”. (Remarks Page 10, Lines 4-9)”

**Examiner's Response:** Bridgelall discloses the indicated claim limitations. Bridgelall discloses a first channel utilized to transmit a request for communications; a second channel used to transmit authentication information; and a third channel used to host communications for the mobile device after completion of authentication. Bridgelall discloses the claim limitations for Claim 1 as follows:

**Channel 336 (first PHY channel)**

- receiving on a first PHY channel of an access point, a request for initiation of a communication session from an originating access device; (see Bridgelall **col 6, lines 7-9: enables user to conduct**



**communications via the network via an access point**; col. 7, lines 33-36: mobile unit (wireless device) posts a request to network via channel 336)

**Channel 338 (second PHY channel)**

- authenticating said communication session by authenticating said access using a second PHY channel; (see **Bridgelall col 6, lines 7-9: enables user to conduct communications via the network via an access point**; col. 7, lines 39-66: connection management service request via dedicated channel 338 or 340; authentication center provides authentication request to mobile over dedicated channel; mobile initiates authentication response over dedicated channel; response executes a cellular authentication and voice encryption algorithm; algorithm produces a registration authentication result which is provide to service provider)

**Channel 342 (third PHY channel)**

- hosting said communication session over a third PHY channel, said third PHY channel established between said access point and said originating access device. (see **Bridgelall col 6, lines 7-9: enables user to conduct communications via the network via an access point**; col. 8, lines 4-9: network assigns traffic channel for transmission of user data; assignment command from network and assignment complete message from mobile; communication on new channel 342)

Three different channels (336, 338 and 342) are utilized to perform the three separate steps of Claim 1. In other disclosures, Bridgelall discloses that an authentication process is completed between the mobile and access point. (see Bridgelall col 9, lines 17-23: authentication process between mobile unit and access point)

**(3.1)** The Examiner repeats the same rejection arguments already stated in the Final Office Action (see pages 2-4). The Appellant maintains the arguments in the corresponding section of the Brief on Appeal (see page 10).

More specifically, the Examiner relies for support on the same citation of Bridgelall as used in the Final Office Action (col 6, lines 7-9), and made the following allegations:

(A) Bridgelall uses the RACH (336) (the alleged "first PHY channel") to enable a user to conduct network communications via an access point;

(B) Bridgelall uses the SDCCH/4 (338) (the alleged "second PHY channel") to enable user to conduct network communications via an access point; and

(C) Bridgelall uses the FACCH/TF (342) (the alleged "third PHY channel") to conduct network communications via an access point.

The Examiner is referred to Appellant's above detailed arguments (1) to (3) in section (I), which have already addressed the Examiner's above allegations (A) to (C). In brief, Appellant's arguments (1) to (3) are summarized as follows:

(1) The Examiner has misconstrued Bridgelall, by equating Appellant's respective "first, second and third PHY channels" of an AP, to Bridgelall's respective PHY channels of a mobile station (the alleged "originating access device").

(2) The Examiner has misconstrued Bridgelall, by alleging that Bridgellal's mobile station (the alleged "originating access device") communicates with the AP (202) in the WLAN network (201) using the respective RACH (336), SDCCH/4 (338) and FACCH/TF (342) GSM cellular channels.

(3) The Examiner's allegation that Bridgelall (see col. 6, ll. 7-9) discloses that the WLAN network (201) utilizes multiple PHY channels (i.e., the RACH (336), SDCCH/4 (338) and FACCH/TF (342)) for the WLAN communication is unsupported.

Based on the foregoing rationale, the Appellant maintains that Examiner's above allegations (A)-(C) are not only unsupported, but they are also contrary to the disclosure of Bridgelall.

In regards to independent claim 1, the Examiner's Answer (pages 19-24) provides arguments numbered 3.2 through 3.12. In response, the Appellant maintains the arguments in the corresponding section of the Brief on Appeal (see pages 10-20). The Examiner's Answer relies for support on the same citation of Bridgelall (see col 6, lines 7-10) as used in the Final Office Action, and argues that Bridgelall's mobile device (the alleged "originating access device") communicates with the WLAN (201) via the AP (202). The Examiner is referred to Appellant's above detailed arguments (1) to (3) in section (I), which have fully addressed the Examiner's above allegations.

Based on the foregoing arguments, the Appellant maintains that Bridgelall does not disclose or suggest **"receiving on a first PHY channel of an access point, a request for initiation of a communication session from an originating access device,"** or **"authenticating said communication session by authenticating said originating access device using a second PHY channel,"** or "hosting said communication

session over a third PHY channel, **said third PHY channel established between said access point and said originating access device,**" as recited by the Appellant in independent claim 1.

The Appellant respectfully requests that the rejection of claim 1 under 35 U.S.C. 102(e) be withdrawn. Likewise, independent claims 15 and 29 are submitted to be allowable for the same rationale of independent claim 1.

**B. Rejection of Dependent Claims 6-9, 20-23 and 34-37**

The Examiner's Answer (page 24) states the following arguments (emphasis added):

**"3.13 Applicant argues,** Dependent Claims 6-9, 20-23, 34-37. (Remarks Page 21, Lines 4-10) Arguments against dependent claims are answered by responses to independent claims.

**Examiner's Response:** Bridgelall disclose receiving identification information of the mobile device utilizing an access point. (see Bridgelall col. 7, line 61 - col. 8, line 2: message indicates type of service, user number, and identification of the mobile (wireless device); col 6, lines 7-10: communications with WLAN is via the access point; communications for the mobile device goes through the access point)"

**(3.13)** The Appellant maintains the arguments in the corresponding section of the Brief on Appeal (see page 21). The Examiner's above argument is still deficient. The Appellant points out that even though Bridgelall (see col 7, line 61 – col. 8, line 2) discloses identification of the mobile wireless device (i.e., Mobile Identity Number (MIN)), the Examiner's argument is still deficient. More specifically, Bridgelall's mobile

device (the alleged "originating access device") communicates with the WLAN (201) via the access point (202) (which operates in IEEE 802.11 protocol) using cellular channels RACH (336), SDCCH/4 (338) and FACCH/TF (342) (i.e., the alleged "first, second and third respective PHY channels"), which operate based on the GSM cellular protocol.

Therefore, Bridgelall does not disclose "receiving an identification of said originating access device **by said access point**," as recited in Appellant's claim 6. Claim 6 is submitted to be allowable. Claims 20 and 34 are similar to claim 6, and are also submitted to be allowable.

In regards to dependent claims 7-9, 21-23, 35-37, the Examiner's Answer (page 24) further states the following arguments (emphasis added):

**"3.14 Applicant argues**, Dependent Claims 7-9, 21-23, 35-37. (Remarks Page 22, Lines 5-7)

**Examiner's Response:** Arguments against dependent claims are answered by responses to independent claims."

**(3.14)** The Appellant maintains the arguments in the corresponding section of the Brief on Appeal (*see* page 22). The Examiner's arguments rely on the responses to independent claims. Likewise, the Appellant submits that above arguments (1) to (3) in section I should have fully addressed the Examiner's arguments.

**C. Rejection of Dependent Claims 2-5, 10, 11, 16-19, 24, 25, 30-33, 38 and 39**

The Examiner's Answer (page 25) further states the following (emphasis added):

**“3.15 Applicant argues**, Dependent Claims 2-5, 10, 11, 16-19, 24, 25, 30-33, 38, 39. (Remarks Page 23, Lines 12-18)

**Examiner's Response:** Arguments against dependent claims are answered by responses to independent claims.

**3.16 Applicant argues**, He, nevertheless, still does not disclose that the generated encryption/decryption key between the user and network access server is "dependent on the determined traffic type". (Remarks Page 24, Lines 16-18)

**Examiner's Response:** Bridgelall disclose the type of traffic communicated. (see Bridgelall col. 7, line 67 - col 8, lines 1: call setup indicates the type of service required (type of traffic); col. 9, lines 31-42: mobile station (wireless device) has received a key through secure channel; mobile station provides an authentication response to access point; authentication status transmitted to mobile station (wireless device)) And, He discloses the generation of an encryption key. (see He col. 18, lines 2-5; col. 19, lines 8-11; col. 20, lines 57-61: generation encryption/decryption key)”

**(3.15)** The Appellant maintains the arguments in the corresponding section of the Brief on Appeal (see pages 23-24). The Examiner's arguments rely on the responses to independent claims. Likewise, the Appellant submits that the above arguments (1) to (3) in section I fully address the Examiner's above arguments.

**(3.16)** The Examiner's argument 3.16 is still deficient. The Appellant points out that Bridgelall (see col 7, line 67 – col. 8, line 1) discloses using a cellular GSM channel, namely, the FACCH/TCH (342) (the alleged “third PHY channel”), to

communicate a setup message, which indicates the type of service required in the mobile wireless device. In this regard, the Examiner is still incorrect in alleging that Bridgelall's mobile device (the alleged "originating access device") communicates with the WLAN (201) via the access point (202) (which operates in IEEE 802.11 protocol) using a GSM cellular channel FACCH/TF (342) (i.e., the alleged "third respective PHY channels").

*He* does not overcome the above deficiencies of Bridgelall. Since claims 2-5, 10, 11, 16-19, 24, 25, 30-33, 38 and 39 are dependant directly or indirectly from independent claims 1, 15, and 29, respectively, the Appellant respectfully requests that the rejection of the dependent claims consequently be withdrawn and the claims 2-5, 10, 11, 16-19, 24, 25, 30-33, 38 and 39 be allowed.

**D. Rejection of Dependent Claims 12-14, 26-28 and 40-42**

The Examiner's Answer (page 25) further states the following arguments (emphasis added):

**"3.17 Applicant argues,** Sheth does not overcome the deficiencies of Bridgelall. (Remarks Page 25, Lines 10-11)

**Examiner's Response:** Sheth is not used to disclose the indicated claim limitation.

**(3.17)** The Appellant maintains the arguments in the corresponding section of the Brief on Appeal (see pages 25). More specifically, the Appellant argued that Sheth

was relied upon by the Examiner to disclose the "virtual channel". However, Bridgellal's **cellular network** (i.e., wireless network) cannot benefit from Sheth's alleged "virtual channel", which is a wired telephone network. The Examiner has not substantively responded to Appellant's above arguments.

In this regard, the Appellant maintains that Bridgellal and Sheth do not establish a prima facie case of obviousness to reject Appellant's claims 12-14, 26-28 and 40-42 under 35 U.S.C. 103(a). Therefore, Appellant's claims 12-14, 26-28 and 40-42 are submitted to be allowable.

The Examiner's arguments rely on the responses to independent claims. Likewise, the Appellant submits that Appellant's above arguments (1) to (3) in section I should have fully addressed the Examiner's above arguments.

The Examiner's Answer (page 25) further states the following (emphasis added):

"3.18 Conclusion: Bridgelall discloses the indicated three separate physical channels. Bridgelall discloses the first channel (indicated as channel 336) that is used to transmit a request for communications from a mobile device. Bridgelall discloses the second channel (indicated as channel 338) to communicate authentication information for the mobile device. And, Bridgelall discloses the third channel (indicated as channel 342) that is used to host communications for the mobile device after the completion of authentication. In addition, Bridgelall discloses that communications for the mobile device to the network is via an access point."



**(3.18)** The Examiner is further referred to Appellant's above arguments (1) to (3) in section (I), which have fully addressed the Examiner's arguments.

Based on the foregoing rationale, the Appellant maintains that the Examiner has misconstrued the disclosure of Bridgelall, and the rejections of Appellant's claims should be reversed.

Furthermore, the Appellant reserves the right to argue additional reasons beyond those set forth herein to support the allowability of claims 1-42 should such a need arise.

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### **CONCLUSION**

For at least the foregoing reasons, the Appellant submits that claims 1-42 are in condition for allowance. Reversal of the Examiner's rejection and issuance of a patent on the application are therefore requested.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

Date: May 2, 2011

/ Frankie W. Wong /

Frankie W. Wong  
Registration No. 61,832  
Patent Agent for Applicant

McANDREWS, HELD & MALLOY, LTD.  
500 WEST MADISON STREET, 34TH FLOOR  
CHICAGO, ILLINOIS 60661  
(312) 775-8093 (FWW)